

REMARKS

Reconsideration of presently solicited Claims 1 to 29 respectfully is requested. For the reasons indicated in detail hereafter a *prima facie* showing of obviousness is urged to be lacking in the reasonably derived teachings of the references. Accordingly, these claims should be found to be in compliance with the statutory prerequisites for patentability as prescribed by Congress. The allowance of the Application is urged to be in order and is respectfully requested.

A full consideration of Applicants' contribution as described in the Specification is requested. Applicants' have provided a novel and unobvious waterborne copolymer dispersion comprising 0.1 to 25% by weight of at least one alkenyl functional dendritic polymer (as described) which is polymerized to a polymer backbone of at least one homo or copolymer obtainable by the polymerization in an aqueous medium of at least one polymerizable ally, vinyl, maleic or diene monomer. As discussed in the Specification, the claimed waterborne copolymer dispersion has been found through the research of Applicants' to yield improved properties, e.g., a substantial improvement with respect blocking in paints while serving under humid conditions with simultaneous exposure to heat. The improved results reported by Applicants are the contribution of Applicants' and not those of the patentees of the patents cited in the Official Action.

The continued rejection of presently solicited Claims 1 to 29 under 35 U.S.C. §103(a) over the different and inadequate teachings of U.S. Patent No. 5,332,640 to Duff et al., or U.S. Patent No. 6,683,145 to Grandhee, or U.S. Patent No. 5,292,795 to Southwick et al. would not withstand detailed technical and legal analysis. Such rejection is urged to be characterizable as an impermissible quintessential hindsight

reconstruction of different reference teachings while using Applicants' teachings as a guide. Also, Applicants' improved results are not described or even remotely suggested in the reference teachings.

Duff is directed exclusively to a different and unrelated toner composition which is lacking in alkenyl groups. Charge enhancing additives are contemplated by Duff which impart a positive or a negative charge to resin toner particles. The particles of the toner composition comprise pigments and small amounts of dendrimers such 0.01 weight percent of toner (Col. 1, lines 56 to 58), and the dendrimer can be applied as an aqueous solution to the toner suspension in water prior to toner drying (Col. 2, lines 58 to 60). The toner is stated to exhibit improved admix properties and triboelastic characteristics (Col. 5, lines 21 to 24). The toner composition comprises a resin core coated with the dendrimer charge enhancing additives (Col. 5, lines 45 to 48), pigment particles, and a polymer shell. Optionally, the core may bear a surfactant coating. The dendrimer charge enhancing additives are added to the resin particles prior to washing and drying steps (Col. 6, lines 12 to 14 and 36 to 40). Further the dissimilar toner particles can be prepared by dry blending methods (Col. 6, lines 42 to 43). An alkenyl group is not contemplated even in the different technology of Duff et al. Duff et al. never teaches a dendrimer charge enhancing additive incorporated via alkenyl functionality in the backbone of the resin. Duff et al. always requires functional groups having a positive charge or which may form anions. No suggestion is found in Duff et al. that the dendrimer is incorporated via an alkenyl functionality into the polymer backbone of the resin using the emulsion polymerization process. In Duff et al. the dendrimer is simply added as a component once the polymerization of the monomers is concluded (Col. 12, lines

40 to 44). See the working Examples of Duff et al. where the dendrimer is added to the toner slurry, stirred and freeze dried, or is blended in an extrusion device. Since there is nothing in the different teachings of Duff et al. to suggest Applicants' specifically claimed contribution and the improved results made possible by Applicants, the withdrawal of the rejection is urged to be in order and is respectfully requested.

Grandhee is directed to a chemically different coating composition. In Grandhee a hydrophobic emulsion is prepared with up to 20% by weight based on the total polymerizable monomers of an addition polymerizable ester of glycidyl ester of certain tertiary acids. This too is not the concept of Applicants' contribution. The glycidyl ester is stated to reduce the formation of coagulum without the increase in the amount of surfactant (Col. 2, lines 25 to 32). Further, the specific coating composition prepared while using the hydrophobic emulsion is stated to exhibit better handling properties and better appearance and can be used in automotive coatings (Col. 1, lines 6 to 7, and Col. 2, lines 42 to 47). Due to the use of the required glycidyl ester in the emulsion, the amount of the surfactant can be reduced (Col. 2, lines 54 to 56). Ionic or amphoteric surfactants in an amount of 0.08 to 0.5% are added to water in order to form the emulsion (Col. 5, lines 10 to 11, and 18 to 20). See the working Examples of Grandhee. In a first reaction the polymerizable ester of the glycidyl ester is formed by the reaction of acrylic acid with the glycidyl ester of neodecanoic acid. Then in the following examples this reaction product is polymerized with the other monomers in the presence of a surfactant. In the Comparative Example the glycidyl ester was omitted. Primer compositions based on polyurethanes were formed. No use of a dendritic polymer is described or

contemplated by Grandhee. The polymerizable acids disclosed at Col. 3, lines 26 to 30 refer to the acids which are reacted with the glycidyl ester in order to prepare the polymerizable ester of a glycidyl ester having a tertiary acid moiety. The monomers, identified at Col. 3, lines 31 to 38, refer to monomers that provide crosslinkable functionality. Any emulsion of Grandhee is not comparable to the dendritic polymer copolymerized into the polymer backbone as specified in all of Applicants' claims. Grandhee does not contemplate the use of dendritic polymers to be incorporated into a polymer backbone. Instead Grandhee concerns various monomers used in emulsion polymerization which have crosslinkable functionality. In all instances, Grandhee requires the addition of a polymerizable ester of a glycidyl ester of certain branched acids. The resulting emulsion is then used in an automotive primer composition based on polyurethanes. There is no teaching or motivation to replace such polymerizable glycidyl ester of Grandhee with a specifically defined dendritic polymer having alkenyl functionality as presently claimed in an effort to address a different technical problem. Since there is nothing in the different teachings of Grandhee to suggest Applicants' specifically claimed contribution and the improved results made possible by Applicants, the withdrawal of the rejection is urged to be in order and is respectfully requested.

Finally, Southwick et al. is directed to a different and dissimilar stable polymer dispersion having an average particle size less than one micron (Col. 1, lines 53 to 55). Southwick et al. contemplates a dispersion of water, a surfactant, and a polymer of a conjugated diolefin which contains an acrylic monomer as a part of the polymer backbone. It is required that the polymer have a block structure with at least one conjugated diolefin block and at least one acrylic monomer block. The

substituent of the acrylic unit is highly branched. As indicated at Col. 4, lines 40 to 41, tertiary butyl methacrylate is preferred. Such acrylic monomer is present in the polymer in an amount of "about 1% to about 20% (Col. 5, lines 18 to 20). Solution polymerization in an organic solvent is contemplated (Col. 5, lines 26 to 31). Next the polymer cement from the polymerization process is emulsified in water in the presence of a surfactant (Col. 5, lines 31 to 37). Surfactants are used to stabilize the polymer dispersion (Col. 6, lines 11 to 13). The amount of surfactant should be as low as possible to avoid detrimental effects on adhesive tack and the water resistance of the protective coating (Col. 6, lines 44 to 49). The lattices are used as adhesives and water-based coatings (Col. 6, lines 53 to 62). A crosslinker may be present (Col. 6, line 63 to Col. 7, line 4). As indicated in Example 1 of Southwick et al., a solution of the polymer in an organic solvent is emulsified by adding water and a surfactant and thereafter removing the organic solvent. The remaining dispersion in water is stable depending on the properties of the polymer and of the surfactant (Col. 8, lines 16 to 23). Table 2 indicates that the incorporation of the methacrylate block in the polymer provides a polymer that can be dispersed in water with less surfactant than the block polymer without such acrylic block (Col. 9, lines 58 to 60). It respectfully is pointed out that contrary to the Official Action at Page 3, Southwick et al. does not refer to an emulsion polymerization process. According to Southwick et al., to a polymer solution dissolved in an organic solvent, water and a surfactant are added, and the organic solvent is removed. Dependent on the presence of an acrylic monomer block structure in the polymer a stable dispersion in water is obtained while using less surfactant. It respectfully is pointed out that Southwick et al. does not incorporate any dendritic polymer into a polymer backbone. Since there

is nothing in the different teachings of Southwick et al. to suggest Applicants' specifically claimed contribution and the improved results made possible by Applicants, the withdrawal of the rejection urged to be in order and is respectfully requested.

A *prima facie* case for the obviousness of the presently claimed subject matter respectfully is urged to be absent in the reasonably derived teachings of the references. To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested in the prior art. They are not. See in this regard M.P.E.P. §2143.3 citing In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in the claim must be considered when judging the patentability of the claim against the prior art". In re Wilson, 424 F.2d 1342. 165 USPQ 494 (CCPA 1970).

The mere allegation that the differences between the claimed subject matter and the prior art are obvious does not create a presumption of unpatentability. See In re Soli, 317 F.2d 941, 137 U.S.P.Q. 979 (CCPA 1963). Obviousness must be predicated on something more than it would be obvious "to try". See Ex Parte Agrabright et al., 161 U.S.P.Q. 703 (POBA 1967), and In re Mercier, 515 F.2d 1161, 185 U.S.P.Q. 774 (CCPA 1975). It is well-established law that patentability determinations of this type are contrary to the statute. See In re Antonie, 559 F.2d 618, 195 U.S.P.Q. 6 (CCPA 1977); In re Goodwin et al., 576 F.2d 375, 198 U.S.P.Q. 1 (CCPA 1978); and In re Tomlinson et al., 363 F.2d 928, 150 U.S.P.Q. 623 (CCPA 1966).

If there is any remaining point that requires clarification prior to the allowance of the Application, the Examiner is urged to telephone the undersigned attorney so that the matter can be discussed and promptly resolved.

Respectfully submitted,

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